

### Earned Value Management

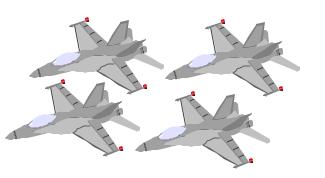
#### **Future Directions in DoD**

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Office of the Under Secretary of Defense
(Acquisition & Technology)

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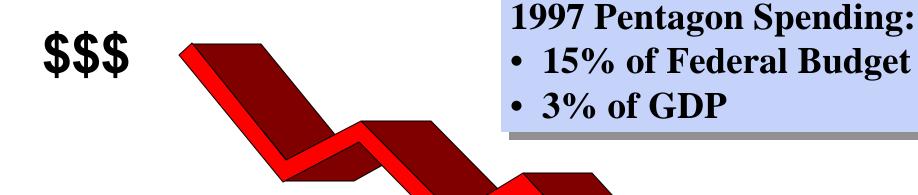
### Earned Value Management

- The facts of (DoD procurement) life
- EVM beginnings
  - DoD contracting requirement
- EVM status
  - Government/Industry best practice
- EVM future
  - DoD's role



#### 1961 Pentagon Spending:

- 40% of Federal Budget
- 8% of GDP



**Military Procurement Budget:** 

• Down 67% since 1985 peak



#### **DoD Responses**

- Acquisition Reform
- "The Last Supper"
  - 1993 SecDef dinner
  - Fewer, larger companies
- Improved Defense Project Management
  - Better integrate cost, schedule, technical perf.
  - Earned Value Management



Lockheed GD Mil. Jets Lockheed "And then there were 3" Sanders Assoc. Martin Marietta GD Rockets **Martin Marietta GE** Aerospace Loral **Lockheed Martin Unisys Defense IBM Fed. Systems** Loral LTV Missiles **Ford Aerospace Goodyear Aerospace Northrop** LTV Aircraft **Northrop Grumman** Grumman **Westinghouse Def Boeing Boeing Boeing Rockwell Def & Space Rockwell Def & Space McDonnell Douglas McDonnell Douglas** Raytheon Raytheon **E-Systems Texas Instruments Def Texas Instruments Def** Raytheon **Hughes Aircraft Magnavox Def Hughes Aircraft CAE Link GD** Missiles

#### **Industrial Base Concerns**

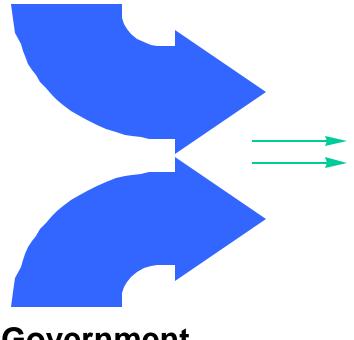
- Market forces
  - Monopsony
  - Monopoly
  - Price gouging
- Vertical integration
- Innovation
- Quality



"The late 1990s and the early 21st Century will mark a difficult and expensive procurement era."

## Earned Value Management: Origins

Industry Best Practices



Government Requirements

1967: DoD Instruction 7000.2
35 Cost/Schedule Control
Systems Criteria (C/SCSC)

#### Criterion-based Management

- Brief statements of attributes
- Not "how-to manage"
- Not a system
- Minimum acceptable standard

**1997: DoD Regulation 5000.2-R** 

32 Earned Value Management Systems (EVMS) Criteria

## **Earned Value Management: Implementation Problems**

- "Financial Management"
- Audit-like reviews
- Government-required reporting
- ◆ Too many "surprises"
  - A-12 (Navy)
  - AAWS-M (Army)
  - **C-17** (**Air Force**)
- Challenge: keep good principles, stop bad practices



# Earned Value Management: DoD Improvements

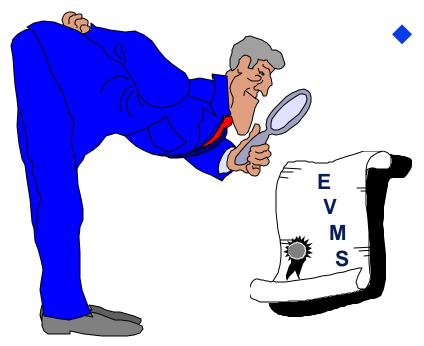
Redefined Earned Value Ownership

— From finance to project management

- From reporting to management
- From government to industry
- Better management tools
- **◆ Integrated Baseline Reviews** 
  - Planning process
  - Better technical/risk management



### **DoD Earned Value Policy**



Examined & Reaffirmed

1984 - Arthur D. Little Study

**1991 - DoD Instruction 5000.2** 

1993 - Inspector General Report

1994 - Coopers & Lybrand Study

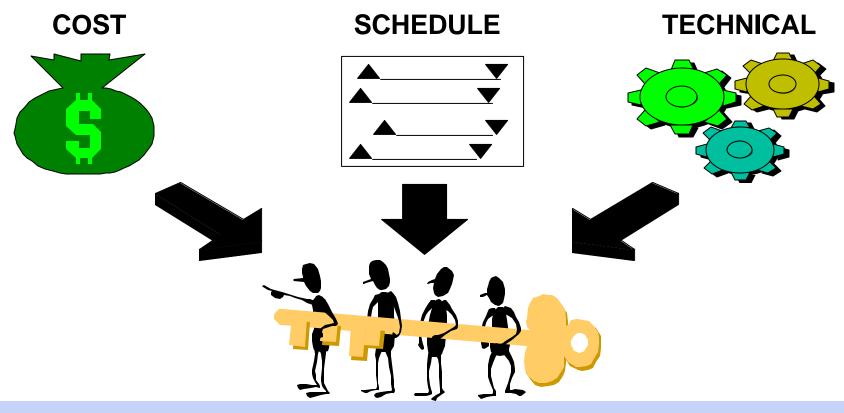
**1996 - DoD Regulation 5000.2-R** 

1996 - Office of Management & Budget Circular A-11 Part 3

1997 - General Accounting Office Report

Australia, Canada, New Zealand, Sweden, United Kingdom

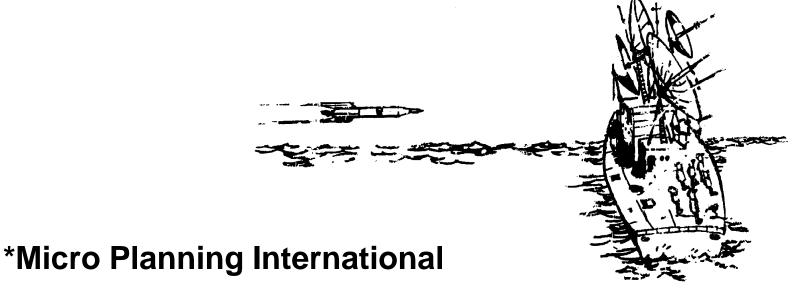
## Integrated Product Teams: The Key to Success



Management systems don't manage - people do! EVM is used to identify, communicate and MANAGE the resource effect of technical and schedule problems

# The Really Nice Thing About Not Planning

Failure comes as a complete surprise and is not preceded by long periods of worry and depression!\*



#### **Integrated Baseline Reviews**

- Mutual understanding of plan for
  - -Scope
  - -Schedule
  - Resources
- Emphasis on risk
- Planning process vs. review
- PM leads; EVM staff supports
  - Management system reviews effectively eliminated



### Putting it all together: IPT + IBR + EVM = IPM

- Involve earned value specialists and cost estimators on program IPTs
- Tailor reports limit levels and analysis
- Do Integrated Baseline Reviews
- Encourage active, forward-looking management

"IPTs must control all the project, technical and functional elements needed for the product or process."

## Earned Value Management: Gov't/Industry Best Practice

- Dec. 1996 USD(A&T) accepted 32 EVMS guidelines as replacement for C/SCSC
- Reserved right for government reviews
  - As determined by project manager
  - "Self-certification" not in public interest
- Encourages evolution to "true" standard
  - Industry/International (ISO)
  - For now, DoD and industry EVMS are equal

### Earned Value Management: The Future

- Office of Management & Budget Guidance
  - 1996 Circular A-11 Part 3
  - 1997 Principles of Budgeting for Capital Asset Acquisitions (FY98 Budget)
  - 1997 Capital Programming Guide (Supplement to A-11 Part 3)
- Government-wide management principles

American Project Management Forum

### Earned Value Management: The Future

◆ A-11 Part 3 extends DoD-pioneered performance measurement to all agencies

◆ It effectively requires Earned Value Management for all contractor performancebased management systems

 Agency budget approvals will depend on performance measured by EVM

The principles are not new to the Dept. of Defense!

EVM: A 30-year old idea is today's best practice!

### Earned Value Management: The DoD's Role

- Integrated Program Management Initiative
- Monitor industry standards
- Participate in standards-setting bodies
- Continue inter-agency cooperation
- Improve project management education
  - Within government
  - Cooperate with academia and professions
- **◆** Improve in-house management